# Low Visibility Procedures

Airside Operational Instruction 21

MAG East Midlands Airport

## 1 Reduced Aerodrome Visibility Conditions (RAVC)

Policy

East Midlands Airport (EMA) is committed to providing facilities and procedures to enable aircraft operations during low visibility conditions. The provision of such combined with a maintained level of safety will reduce air traffic capacity below that achievable in normal operations. EMA will draw upon experience across industry to continually review **Reduced Aerodrome Visibility Conditions** in order to develop further safety and capacity.

Introduction

a. To ensure the safety of aircraft during periods of low visibility and/or low cloud, procedures will be implemented that protect and control aircraft operations. These procedures also provide additional control measures to prevent the inadvertent incursion by aircraft on to the runway restricted area and by vehicles on to the aircraft manoeuvring area.

b. As weather conditions deteriorate, the airfield is readied for low LVP's. In addition, there are specific procedures for when Low Visibility Procedures cannot be achieved. These are known as RAVPs (Reduced Aerodrome Visibility Procedures).

c. The procedure incorporates varying stages.

1.2 Weather warnings/communications

a. Exeter weather centre issues a weather warning whenever inclement weather/periods of low visibility are expected. The Airport promulgates this information to airlines, operators and staff, via a message in Chroma Fusion visible in a yellow banner at the top of the screen display.

b. Airside operators will be informed that LVP's /RAVP's are in force by means of either:

- Telephone (via Operations control room)
- Warning lights (as per paragraph 1.7(c))
- ATC
- Chroma Fusion

c. The Operations Control Room will inform the Airport Duty Manager when the Airport goes into low visibility so that preparations can be made for any possible delays/cancellations/diverts.

1.3

**Reduced Aerodrome Visibility Conditions (RAVC)**

a. Reduced Aerodrome Visibility Conditions exist when all or part of the manoeuvring area cannot be visually monitored from the control tower and consequently the personnel of the control units are unable to exercise visual control over the traffic in the area.

**b.** Special provisions are established to cover cases where there is a requirement for aircraft or other aerodrome surface traffic to operate on the manoeuvring area while RAVC exist – these are known as Reduced Aerodrome Visibility Procedures (RAVPs).

**c.** Reduced Aerodrome Visibility Procedures (RAVPs) are intended to support ground movements even when LVPs are not in force, either because the runway in use is not certified for operations that require LVP, or these operations are not currently being conducted.

**d.** In addition to the infrastructure, equipment, rules and procedures established to support aerodrome ground operations as detailed above (refer to 1.3 section b), Low Visibility Procedures (LVPs), are established to support the following aircraft flight operations:

- Departure operations in RVR conditions less than a value of 550 m;
- CAT II and III approach and landing operations;
- Lower Than Standard CAT I approach and landing operations.

**e.** Whenever CAT II/III approaches are available on Runway 27 or LTS CAT I approaches are available on Runway 09, the term LVPs shall be used to describe the procedures in use to safeguard aircraft and vehicle movements.

**f.** Should a condition arise whereby the airfield requires safeguarding in poor visibility but neither CAT II/III approaches nor LTS CAT I approaches are available, the term Reduced Aerodrome Visibility Procedures shall be used to describe such safeguarding operations.

**g.** ATC will be the single point of contact for determining the current status of LVPs/ RAVPs

## 1.4 Preliminary Actions for Implementation of LVPs & RAVPs

a. When visibility and cloud ceiling begin to fall action must be taken to ensure that LVPs or RAVPs as appropriate can be implemented by the time that the weather conditions deteriorate below Cat I minima. The figures below are not absolute and action may need to be taken earlier depending on actual conditions.
ATC is responsible for the instigation and cessation of LVP' / RAVP's, with various measures being carried out by Airfield Operations. ATC procedures are contained within MATS Pt 2.

b. When Met or IRVR visibility falls to **1500m** and/or the cloud ceiling lowers to **300ft** and either is expected to fall further, LVPs/RAVPs should be initiated as detailed below :-

- ATC to Airfield Operations that LVPs/RAVPs are commencing (As Per 1.2 b)
- Only vehicles in RTF contact with ATC will be permitted to operate on the manoeuvring area. Ops Control must be informed by ATC that LVPs/RAVPs are commencing so they can notify appropriate aerodrome users.
- All non-essential activities on the airfield shall be suspended and vehicles and personnel recalled. All routine maintenance on visual and non-visual aids should be suspended.

- The commencement of LVPs or RAVPs shall be broadcast on the R/T, all non-essential vehicles will cease operations and request permission to vacate the airfield if on the manoeuvring area.

- All vehicles and personnel on the manoeuvring area are, under instruction from ATC to commence withdrawal with the exception of those engaged in essential activities i.e. Airfield Operations, Airfield Ground Lighting and RFFS.

- All personnel involved in activities/works on the manoeuvring area (defined as airfield areas including the runway and taxiways, but excluding aprons and maintenance area) are required to be in possession of, or be escorted by a holder of an East Midlands Airport 'M' manoeuvring area permit, or 'R' runway permit.

- When LVP's / RAVP's are initiated, signs stating LVP's in force accompanied by a red warning light will be displayed at vehicular access points to all airside area. Perimeter track red guard lights will also be set by ATC to solid red. All drivers undertaking essential activities must contact ATC for onward clearance.

During these conditions drivers should

- Proceed with extreme caution operating with dipped headlights, and where fitted, fog lights.
- Only undertake essential journeys on the aprons
- Be alert to the sudden appearance of an aircraft entering a stand and be prepared to give way accordingly.

The controlled taxiway crossing that links the Central and West Aprons, crossing the November and Mike taxiways, is closed to all traffic, except essential vehicles escorted by Airfield Operations

c. Drivers using uncontrolled crossings must have sufficient visibility to ensure that their vehicle can safely proceed without endangering themselves, other vehicles or any aircraft that may be manoeuvring or about to manoeuvre, otherwise an escort from Airfield Operations must be requested.

d. In IRVRs below 300m, after taking into account the type and nature of the operator and experience of the aircrews, if considered necessary, departing & arriving aircraft may be led by vehicle between runway and stand. For arriving aircraft on Runway 27, the lead vehicle will wait at the appropriate stopbar, Alpha 10 or Alpha 9, until the vehicle is seen by the pilot, and then lead the aircraft to stand. For Runway 09, the vehicle will wait at A3

e. In IRVRs of less than 300m vehicles may only use the uncontrolled crossings on the Central Apron with the prior permission of & under the control of Airside Operations, who will be in radio contact with ATC.

f. Specific Air Traffic Control procedures are located in the 'Manual of Air Traffic Services' Part 2.

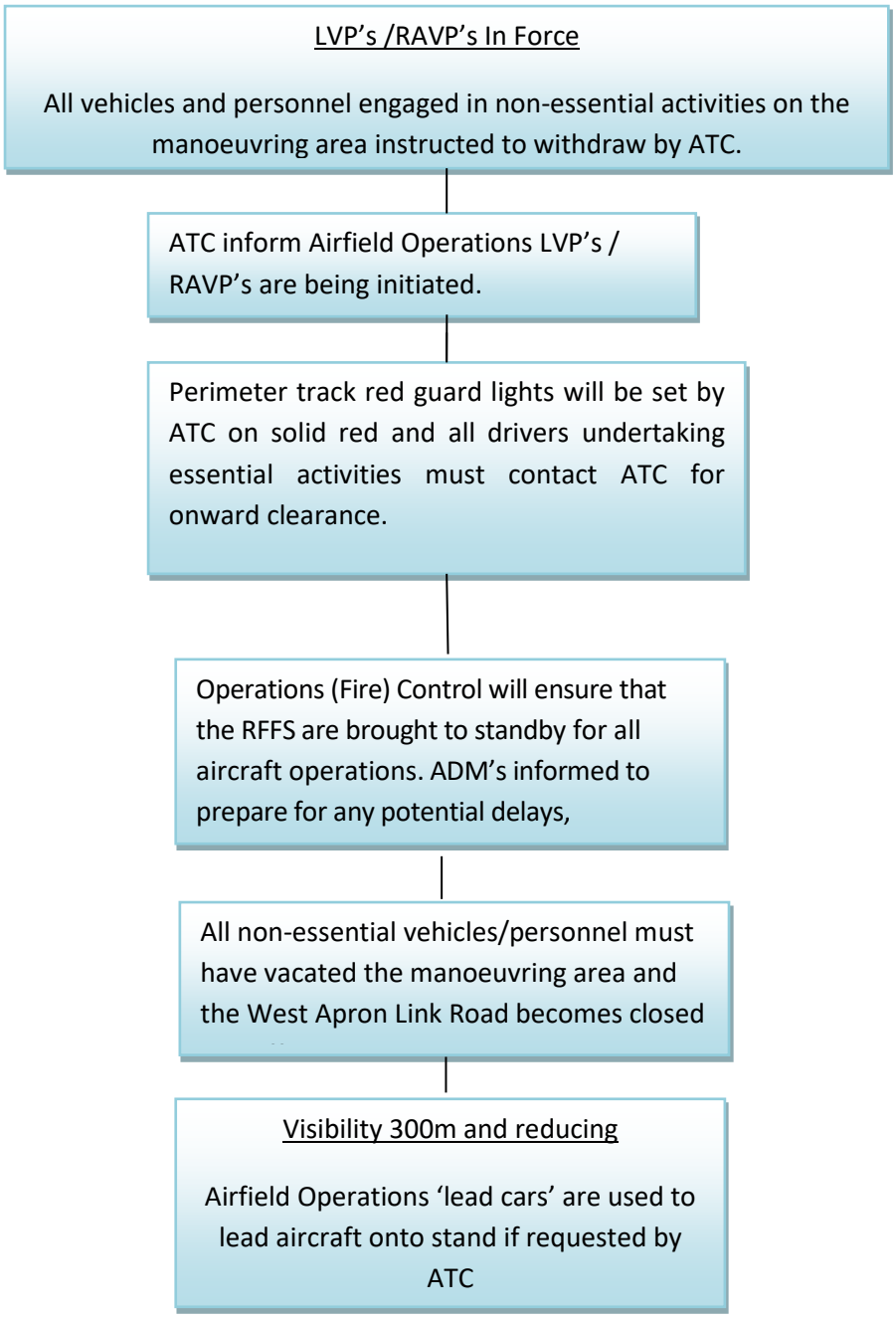
1.4 Airfield Ground Lighting Procedures

Upon initiation of LVP's/RAVP's by ATC, three standby generators will become the primary source of power to ATC systems. Each generator is supported by fuel reservoir and can operate for up to 96 hours on full load conditions before a Low Fuel Warning alert is triggered. Refuelling will be undertaken by EMA Motor Transport who will be advised of the requirement via a call out system initiated by AGLTs

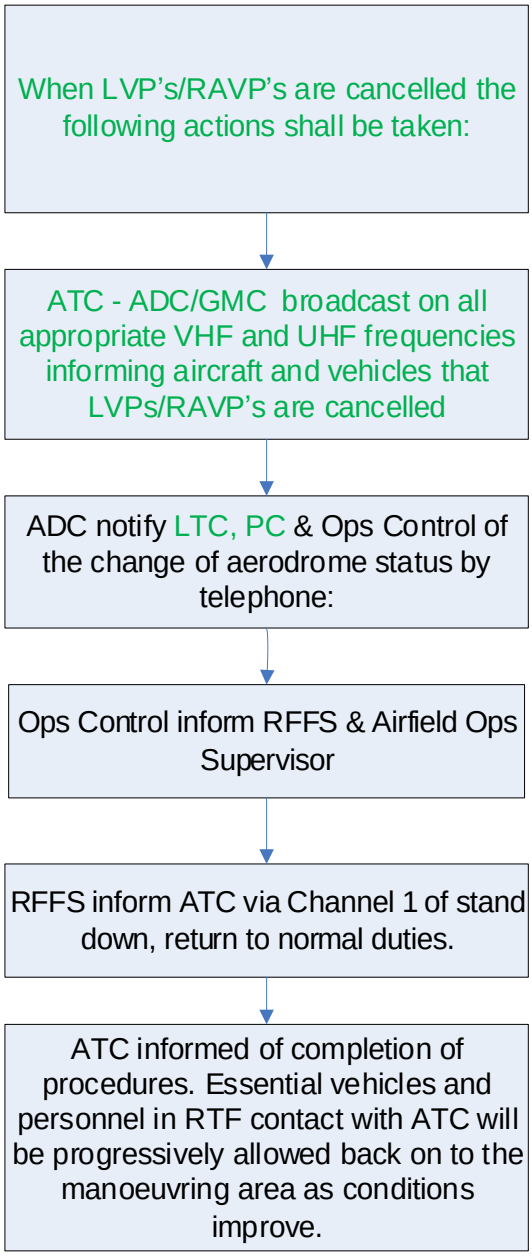
* Note: Each generator will run for a further 12 hours from the time of alert until the fuel supply is exhausted

Generators can only be started/stopped by either initiating/cancelling LVP/LVO's on the lighting panel in the Visual Control Room or via Airfield Ground Lighting.

1.5 Safeguarding Process – (a) Instigation of LVP's / RAVP's Flowchart


LVP's /RAVP's In Force
All vehicles and personnel engaged in non-essential activities on the manoeuvring area instructed to withdraw by ATC.
ATC inform Airfield Operations LVP's / RAVP's are being initiated.
Perimeter track red guard lights will be set by ATC on solid red and all drivers undertaking essential activities must contact ATC for onward clearance.
Operations (Fire) Control will ensure that the RFFS are brought to standby for all aircraft operations. ADM's informed to prepare for any potential delays,
All non-essential vehicles/personnel must have vacated the manoeuvring area and the West Apron Link Road becomes closed
Visibility 300m and reducing
Airfield Operations 'lead cars' are used to lead aircraft onto stand if requested by ATC

(b) Cessation of low visibility operations


When LVP's/RAVP's are cancelled the following actions shall be taken:
ATC - ADC/GMC broadcast on all appropriate VHF and UHF frequencies informing aircraft and vehicles that LVPs/RAVP's are cancelled
ADC notify LTC, PC & Ops Control of the change of aerodrome status by telephone:
Ops Control inform RFFS & Airfield Ops Supervisor
RFFS inform ATC via Channel 1 of stand down, return to normal duties.
ATC informed of completion of procedures. Essential vehicles and personnel in RTF contact with ATC will be progressively allowed back on to the manoeuvring area as conditions improve.

1.6 Vehicle operations during low visibility

a. The control measures in place for vehicles in airside areas, including the manoeuvring area are contained in paragraph 1.7. Further precautions are required when Low Visibility Operations are in force, and drivers should observe the following precautions:

i. Drivers should proceed with extreme caution operating with dipped headlights, and where fitted, fog lights.

ii. Only essential journeys on the aprons should be undertaken.

iii. All staff should be alert to the sudden appearance of an aircraft entering a stand and be prepared to give way accordingly.

b. Once LVP's /RAVP's are in force the controlled taxiway crossing that links the Central and West Aprons, crossing the November and Mike taxiways, is for use by essential vehicles only escorted by Airfield Operations. In visibility less than 300m the uncontrolled crossings on the Central Apron are closed to regular apron traffic. Vehicles may only use these crossings with the prior permission and under the control of Airfield Operations who will be in radio contact with ATC. If the eastern extremity of the terminal cannot be seen from the western uncontrolled crossing the visibility is less than 300m. Notwithstanding, Airfield Operations or ATC may determine that the visibility is less than 300m and control the crossings accordingly.

c. During periods of low visibility vehicles will be withdrawn from the Manoeuvring Area in line with paragraph 1.3. Only activities determined by ATC in consultation with Air Traffic Engineering/Airfield Operations to be essential to the safe operation of the airport will be permitted. They include but are not restricted to:

i. Safety critical repairs to navigational aids, radar and airfield visual aids

ii. Runway / Taxiway surface inspections

iii. Bird control

iv. RFFS in an emergency

v. 'Follow me' vehicles

d. **CAT II and III Operations.** While CAT II or III landing operations are taking place no vehicles or personnel are allowed to enter or remain within the Runway Strip, Runway End Safety Areas, clearways or ILS Critical/Sensitive areas, as delineated with red topped marker pegs.

1.7 Control of access to airside areas in poor visibility

In poor visibility additional control measures are necessary to stop any vehicle or person from straying onto the airside or manoeuvring areas undetected. The following paragraphs detail the actions to be taken to control access to the airside areas and manoeuvring areas (including the perimeter track) and regulate movements in these areas during LVP's.

a. Airside access points from Landside areas to the central, west and east aprons and the maintenance area are controlled at all times by Security Staff by means of gatehouses. Only Central 1 gatehouse is open 24 hours, other gatehouses are open for shorter hours or on request. At the Maintenance area / Alpha taxiway intersection ("Mike 3") and also Mike Alpha/Mike taxiway intersection, additional control is provided by a red stop bar and illuminated signs.

b. Signs warning that there is an aircraft movement area ahead are displayed at all of the airside access points from landside, plus at the road access to the aprons from other airside areas. Airfield Security will also switch the signs in the closed gatehouses and inform Ops Control once this is complete. This process is reversed upon cessation of LVPs/RAVP's.

c. During LVPs & RAVPs vehicles are not permitted to engage in work which will obstruct a taxiway, unless the taxiway is closed and barricaded. This and other work on the aerodrome will only be permitted if:

- The work site is outside of the LSA, not within 35 metres of the edge of any taxiway or apron (sufficient for Code E aircraft movements) and contained by means of approved barriers/lights.
- Access is not via the movement area.
- The supervision of work at the site has been approved by airport management and a completed C55 works notification is held by ATC.

d. As the perimeter road passes through the localiser sensitive areas and DME safeguarded area, vehicles may only be permitted to proceed around the perimeter road under ATC Control during periods when neither the localiser or DME are in use.

Because it is possible for drivers not fully familiar with the airfield layout to become disorientated, only persons holding a valid 'M' or 'R' Airside Driving Permit and who are engaged in operations as identified in paragraph 1.6 (c) may enter the manoeuvring area in restricted visibility.

e All vehicles operating on the manoeuvring area are to be equipped with an airfield chart showing all taxiways, runways, holding and reporting points together with action to be taken as low visibility operations come into force and actions in the event of breakdown, RT loss or driver becoming unsure of their position.

f. In the event of a radio failure while on the manoeuvring area in reduced visibility the requirements are:

i. To establish a safe condition

ii. To inform ATC of what has occurred

g. The action to be taken to establish a safe condition will depend on the circumstances. If communication is lost while within the runway strip, aircraft movement area or ILS critical or sensitive area you should continue to the last position for which you have ATC clearance, then wait for assistance. Do not move any further than the position for which you have ATC clearance.

h. If you are in possession of a mobile phone contact the Operations Control Room on 01332 852973 to inform them of the current problem. This will be relayed to ATC and a vehicle will be dispatched to escort you to a safe position.

i. If on the perimeter track, outside the runway strip, aircraft movement area or the ILS critical or sensitive area, the vehicle is to remain outside of these areas and proceed by the safest route off the manoeuvring area and thence directly to the nearest telephone and report clear of the manoeuvring area to ATC (internal extension 2232) or the Operations Control Room on 01332 852973 who will relay the message to ATC.

j. In the event of vehicle breakdown report your location and the nature of the breakdown to ATC by R/T and await instructions.

k. If the breakdown also causes radio failure, if you are in possession of a mobile phone contact the Operations Control Room on 01332 852973 to inform them of current problem. In either event wait for assistance, do not leave the vehicle unattended.

l. In the event of becoming unsure of your position during low visibility operations report to ATC by R/T that you are unsure of your current location and await instructions.

1.8 RFFS Procedures During Periods of Low Visibility

a. Upon notification of LVP's / RAVP's, an announcement will be made over the PA system to inform all personnel that a heightened response is in place for Low Visibility.

b. During LVP's / RAVP's, RFFS's response to EMAS (Category A) first aid calls, and on site AFA calls must be assessed by the Station Manager to determine the importance of the call against the aircraft movements taking place at that time.

c. A series of red warning lights will illuminate in the appliance bays and other rooms where personnel may be working for the duration that are in force.

d. All Crew Managers will monitor radio channels and RFFS personnel will be restricted to the Fire Station whilst in LVP's / RAVP's to facilitate the search pattern if required.

e. The Station Manager will confirm/ record with ATC, by way of Channel 1 that the RFFS are on LVP standby and ascertain if the SMR is serviceable. RFFS vehicle thermal image cameras will also be checked.

f. Procedures for locating missing aircraft during LVP's / RAVP's can be located in The Aerodrome Emergency Plan.

1.9 Utilisation of Technologies

a. EMA possess several technological systems which may be utilised to enhance the current procedure for an incident during LVP's. / RAVP's

b. Whilst these systems are an enhancement to the procedures they cannot be relied upon to facilitate the acquisition of a lost aircraft.

c. These technologies include:

i. Surface Movement Radar (SMR)

ii. Thermal Imaging Cameras (TIR)

d. The above technologies should be assessed when entering LVP's /RAVP's for their operability.

1.10 LVP's/RAVP's Information dissemination.

a. Airside operators will be informed of LVP's / RAVP's instigation as per paragraph 1.3.

b. 3RD parties operating within the movement area at EMA will be informed of procedural details and relevant updates in relation to LVP's / RAVP's through;

   i. Documented procedures contained within the Aerodrome Manual.

   ii. Safety related committees, including

   - Airport Safety Review Board
   - Airfield Safety Committee
   - Pilots Liaison Group